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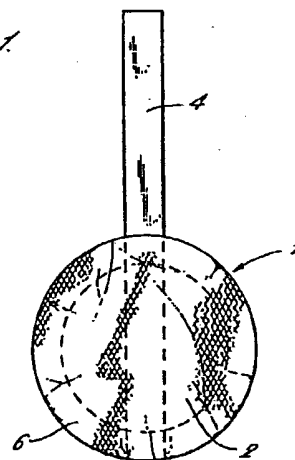
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54 **Beverage infuser device.**

57 A disposable beverage infusion device which comprises a body portion (1) having a first part (2) and a second part (3) which are joined together around the edges thereof (6). At least one of the parts (3) is deep drawn or formed to provide a receptacle for the beverage ingredient or ingredients. A handle (4) is provided which passes transversely through the body portion between the first part (2) and second part (3) and is joined to the edges of both the first part and second part. The beverage infusion device may be a bag containing leaf tea or ground coffee which is intended to provide an infusion of tea or coffee, respectively, by placing the bag in a cup or pot and adding hot water thereto.

*FIG. 1.*



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BEVERAGE INFUSION DEVICE

The present invention relates to a beverage infusion device and, in particular, to a bag containing  
5 leaf tea or ground coffee which is intended to provide an infusion of tea or coffee, respectively, by placing the bag in a cup or pot and adding hot water thereto.

Vending machines which dispense beverage ingredients for reconstitution into hot or cold drinks are  
10 well known in the art. The coffee which is dispensed by such vending machines is usually so-called "instant" coffee and the tea which is dispensed by such machines is usually instant tea. The drinks formed by reconstituting  
15 the instant coffee and instant tea with hot water are not acceptable to all consumers and there has therefore been a need for a system whereby infusions of leaf tea and ground coffee can be provided in vending machines.

20 We have now developed a beverage infusion device which can be used in vending machines, particularly for dispensing leaf tea and ground coffee.

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Accordingly, the present provides a disposable beverage infusion device which comprises a body portion having a first part and a second part which are joined together around the edges thereof, at least one of the  
5 said parts being permeable to liquids and at least one of the said parts being deep drawn or formed to provide a receptacle for the beverage ingredient or ingredients, and a handle which passes transversely through the body portion between the first part and second part and is  
10 joined to the edges of both the first part and the second part.

In a preferred aspect of the invention, the body portion is round. The body portion is preferably made  
15 from a water-permeable cellulosic material, a cellulosic material comprising woven paper fibres being particularly preferred. The woven paper fibres may be admixed with fibres of polypropylene, polyvinylchloride and/or polyethylene. The incorporation of these plastic materials  
20 into the cellulosic material render the cellulosic material heat-sealable. The body portion may also be made from a water-permeable synthetic material, for example a spun-bonded polyester web sold under the Trade Name  
REMAI or a spun-bonded nylon web sold under the Trade  
25 Name CEREX.

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In a preferred aspect of the invention, the first part and second part of the body portion are joined together around the edges thereof by heat-sealing and it is further preferred to join the handle to the first part  
5 and second part of the body portion by heat sealing.

The cellulosic material may also be coated with a material which is activated by heat and/or pressure. In such a case the parts of the body portion may be joined  
10 together by the application of heat and/or pressure. When the cellulosic material is coated with a material which is activated by both heat and pressure, then if a low temperature is used a higher pressure is required to effect the sealing than if a high temperature is  
15 used when a lower pressure is required.

The handle may be made, for example, from a metal, a plastics material or a plastics coated paper either with or without a metal stiffener. The handle is  
20 preferably made from a strip of metal foil which may be stiffened by the incorporation of ridges therein and which is preferably coated with a plastics material in order to enable it to be heat sealed to the material from which the body portion is made. The handle is preferably  
25 in the form of a strip of about 1 centimetre in width. The length of the handle will be adjusted to the particular intended use of the beverage infusion device, for example if the device is to be used in a cup then the handle will

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be of the order of from 5 to 8 centimetres in length.

The present invention also includes within its scope a beverage infusion device in which a body portion  
5 of the type as hereinbefore defined is attached to either end of a handle which passes through both of the said body portions. The length of the handle between the two body portions may be chosen so that it can be formed into a loop which can readily be grasped by the fingers  
10 of the user. This arrangement is of particular use when the main beverage ingredient is ground coffee since it has been found that a stronger coffee infusion can be obtained from a specified amount of coffee when contained in two body portions, as compared to the same amount of  
15 coffee contained in a single body portion.

The present invention furthermore includes within its scope a plurality of beverage infusion devices in the form of a band in which a continuous handle passes through  
20 a plurality of spaced apart body portions. Such arrangement is of use for catering situations where one or more beverage infusion devices can be torn or cut from the band as desired.

25 When the beverage infusion device of the present invention is placed in a cup and water added thereto, infusion is possible without the need for a spoon or other

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means of agitation. The handle is sufficiently stiff to allow the infuser to be swirled through the liquid. The beverage infusion device may also be used for white beverage preparation which permits both the infusion of  
5 the beverage and the dispersion of the whitener. The beverage infusion device may also be used for the preparation of sweetened drinks by including sugar in the beverage ingredients.

10 The present invention also includes within its scope a cup which contains therein a disposable beverage infusion device of the invention. In another aspect the invention provides a stack of cups wherein each cup contains therein a disposable beverage infusion device  
15 as above defined. In this latter embodiment the handle of the beverage infusion must be sufficiently flexible to allow the nesting of non-interlocking cups.

The beverage infusion device of the invention  
20 preferably contains leaf tea or ground coffee as the, or one of the, beverage ingredient(s), although it can be used for the packaging of other beverage ingredients such as chocolate and fruit drinks.

25 The present invention will be further described by way of example and with reference to Figures 1 and 2 of the accompanying drawings in which:

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Figure 1 is a plan view of a beverage infusion device according to the invention; and

Figure 2 is a section of a beverage infusion device of the invention.

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The beverage infusion device comprises a body portion 1 having a lid 2 and a base portion 3. The lid and base portion are formed from a heat-sealable cellulosic material containing fibres of a mixture of polypropylene, 10 polyvinyl chloride and polyethylene. A handle 4 is located transversely through the body portion 1 between the lid 2 and base portion 3. The handle is made from a strip of aluminium foil coated with polyethylene on both sides thereof. The infusion device contains a beverage 15 ingredient or ingredients, for example leaf tea or ground coffee together with a whitener and/or sugar, if desired. During the manufacture of the infusion device, the lid 2 is sealed to the base portion 3 and the handle 4 is sealed to both the lid and base portion by heat sealing. 20 A heat seal 6 is thus formed around the edge of the infusion device.

It will be appreciated that the particular type of infusion device illustrated in the drawings is suitable 25 for incorporation into the round bottomed cups which are currently used in vending machines. The round shape of the infusion device makes it particularly suitable for

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incorporation into the bottom of such cups.

A particular advantage of the infusion device of the invention is that the deep drawn or formed part of the body portion enables water to penetrate into the  
5 the body portion enables water to penetrate into the infusion device more readily, thereby to give a more satisfactory infusion than infusions obtained with flat tea bags or the like. This is particularly important with regard to the infusion of ground coffee which is a  
10 much slower operation than the infusion of leaf tea.

In another aspect the present invention provides a sachet which comprises a body portion having a first part and a second part which are joined together around  
15 the edges thereof, at least one of the said parts being deep drawn or formed to provide a receptacle for the contents of the said sachet, and a handle which passes transversely through the body portion between the first part and second part and is joined to the edges of both  
20 the first part and the second part.



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CLAIMS:

1. A disposable beverage infusion device which comprises a body portion having a first part and a  
5 second part which are joined together around the edges thereof, at least one of the said parts being permeable to liquids and at least one of the said parts being deep drawn or formed to provide a receptacle for the beverage ingredient or ingredients, and a handle which passes  
10 transversely through the body portion between the first part and second part and is joined to the edges of both the first part and the second part.

2. A disposable beverage infusion device as  
15 claimed in Claim 1 wherein the body portion is round.

3. A disposable beverage infusion device as claimed in Claim 1 or Claim 2 wherein the body portion is made from a water-permeable cellulosic material.  
20

4. A disposable beverage infusion device as claimed in Claim 3 wherein the cellulosic material comprises woven paper fibres.

25 5. A disposable beverage infusion device as claimed in Claim 4 wherein the woven paper fibres are mixed with fibres of polypropylene, polyvinylchloride and/or polyethylene.

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6. A disposable beverage infusion device as claimed in any one of the preceding Claims wherein the first part and second part of the body portion are joined together by heat sealing.

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7. A disposable beverage infusion device as claimed in any one of the preceding Claims wherein the handle is joined to the first part and second part of the body portion by heat sealing.

10

8. A disposable beverage infusion device as claimed in any one of the preceding Claims wherein the handle is made from a metal or a plastics material.

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9. A disposable beverage infusion device as claimed in Claim 8 wherein the handle is made from a strip of plastics coated metal foil.

10. A disposable beverage infusion device as claimed in Claim 9 wherein the handle is stiffened by the incorporation of ridges therein.

11. A disposable beverage infusion device as claimed in any one of the preceding Claims which contains leaf tea or ground coffee therein.

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12. A disposable beverage infusion device as claimed in any one of the preceding Claims wherein a body portion is attached to either end of a handle, the said handle passing through both of the said body portions.

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13. A plurality of beverage infusion devices as claimed in any one of Claims 1 to 10 in the form of a band in which a continuous handle passes through a plurality of spaced apart body portions.

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14. A cup containing therein a disposable beverage infusion device as claimed in any one of the preceding Claims.

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15. A stack of cups wherein each cup contains therein a disposable beverage infusion device as claimed in any one of Claims 1 to 13.

16. A sachet which comprises a body portion having  
20 a first part and a second part which are joined together around the edges thereof, at least one of the said parts being deep drawn or formed to provide a receptacle for the contents of the said sachet, and a handle which passes transversely through the body portion between the first  
25 part and second part and is joined to the edges of both the first part and the second part.

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FIG. 1.

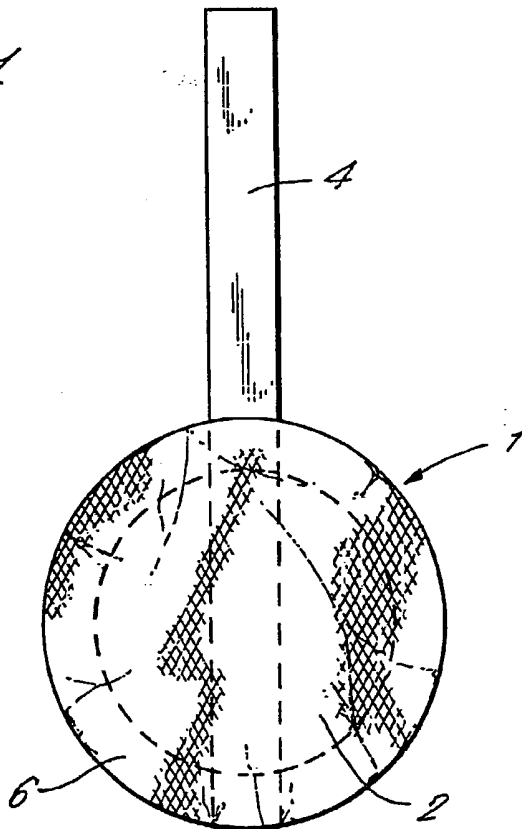


FIG. 2.

